

The Sources of B_z Fluctuations within CIRs: Magnetic Storms During the Descending Phase of the Solar Cycle

R. K. Sakurai, B. T. Tsurutani, C. M. Ho, J. K. Arballo, B. J. Smith, B. F. Goldstein (all at Jet Propulsion Laboratory, California Institute of Technology, Pasadena, CA 91109; 818-354-7559; e-mail: btsurutani@jplsp.jpl.nasa.gov)

A. Balogh (Imperial College of Science and Technology, The Blackett Laboratory, London, SW7 2BZ, England; e-mail: abalogh@uk.ac.ic.ph.spva)

We examine the magnetic field fluctuations within Corotating Interaction Regions (CIRs) detected by Ulysses at mid- and low-latitudes. CIRs are formed by the interaction of high-speed streams flowing from the polar coronal hole with slow-speed streams. Several wave modes present in this compressed field have been identified, some caused by local plasma instabilities and others modified by transmission across the different plasma regions. We will also search for daughter waves associated with wave-shock interactions. In particular, we find that large amplitude B_z fluctuations may be compressed Alfvén waves which have entered the CIR from the high-speed streams proper. The effectiveness of these waves causing magnetic storms at Earth will be discussed.

1. 1995 AGU Fall Meeting

2. 001325224

3. a) B. T. Tsurutani
Jet Propulsion Laboratory
MS 169-506
4800 Oak Grove Drive
Pasadena, CA 91109

b) Tel. 818354-7559

c) Fax 818354-8895

d) btsurutani@jplsp.jpl.nasa.gov

4. SPA/SH

5. a) Ulysses

5. b)

6. Oral

7. 20%, 1993 AGU

8. \$50.00 check

9. C